Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A radiation detector for detecting radiation [[(8)]] according to a predefined spectral sensitivity distribution [[(9)]] that exhibits a maximum at a predefined wavelength λ_0, comprising a semiconductor body [[(1)]] with an active region [[(5)]] serving to generate a detector signal and intended to receive radiation, ~~characterized in that~~ wherein said active region [[(5)]] comprises a plurality of functional layers [[(4a, 4b, 4c, 4d)]], said functional layers having different band gaps and/or thicknesses and being implemented such that said functional layers at least partially absorb radiation in a wavelength range that includes wavelengths greater than the wavelength λ_0.

2. (Currently Amended) The radiation detector as in claim 1, ~~characterized in that~~ wherein said predefined spectral sensitivity distribution [[(9)]] is that of the human eye.

3. (Currently Amended) The radiation detector as in claim 1 [[or 2]], ~~characterized in that~~ wherein said semiconductor body [[(1)]] contains at least one III/V semiconductor material.

4. (Currently Amended) The radiation detector as in ~~one of the preceding claims~~, claim 1 ~~characterized in that~~ wherein disposed after said active region is a filter layer structure [[(70)]] comprising at least one filter layer [[(7, 7a, 7b, 7c)]], which filter layer structure [[(70)]] determines the short-wave side [[(101)]] of the detector sensitivity [[(10)]] in accordance with the predefined spectral sensitivity distribution [[(9)]] by absorbing radiation in a wavelength range that includes wavelengths smaller than λ_0.

5. (Currently Amended) A radiation detector for detecting radiation in accordance with the predefined spectral sensitivity distribution [[(9)]] of the human eye, which exhibits a maximum at the wavelength λ_0', comprising a semiconductor body [[(1)]] with an active region [[(5)]] serving to generate a detector signal and intended to receive radiation, ~~characterized in that~~ wherein said semiconductor body [[(1)]] contains at least one III/V semiconductor material and said active region [[(5)]] comprises a plurality of functional layers.

6. (Currently Amended) The radiation detector as in claim 5, ~~characterized in that~~ wherein said functional layers [[(4a, 4b, 4c, 4d)]] at least partially absorb radiation [[(8)]] in a wavelength range that includes wavelengths greater than the wavelength λ_0'.

7. (Currently Amended) The radiation detector as in claim 5 [[or 6]], ~~characterized in that~~ wherein said functional layers [[(4a, 4b, 4c, 4d)]] have different band gaps and/or thicknesses.

8. (Currently Amended) The radiation detector as in ~~one of claims 5 to 7~~ claim 5, ~~characterized in that~~ wherein disposed after said active region is a filter layer structure [[(70)]] comprising at least one filter layer [[(7, 7a, 7b, 7c)]], which filter layer structure [[(70)]] determines the short-wave side [[(101)]] of the detector sensitivity [[(10)]] in accordance with said predefined spectral sensitivity distribution [[(9)]] by absorbing radiation in a wavelength range that includes wavelengths smaller than λ_0'.

9. (Currently Amended) A radiation detector for detecting radiation [[(8)]] in accordance with a predefined spectral sensitivity distribution [[(9)]] that exhibits a maximum at a predefined wavelength λ_0, comprising a semiconductor body [[(1)]] with an active region [[(5)]] serving to generate detector signals and intended to receive radiation, ~~characterized in that~~ wherein disposed after said active region is a filter layer structure [[(70)]] comprising at least one filter layer [[(7, 7a, 7b, 7c)]], which filter layer structure [[(70)]] determines the short-wave side

[[(101)]] of said detector sensitivity [[(10)]] in accordance with said predefined spectral sensitivity distribution [[(9)]] by absorbing radiation in a wavelength range that includes wavelengths smaller than λ_0.

10. (Currently Amended) The radiation detector as in claim 9, ~~characterized in that~~ wherein said predefined spectral sensitivity distribution [[(9)]] is that of the human eye.

11. (Currently Amended) The radiation detector as in claim 9 [[or 10]], ~~characterized in that~~ wherein said semiconductor body [[(1)]] contains at least one III/V semiconductor material.

12. (Currently Amended) The radiation detector as in ~~one of claims 9 to 11~~ claim 9, ~~characterized in that~~ wherein said active region [[(5)]] comprises a plurality of functional layers.

13. (Currently Amended) The radiation detector as in claim 12, ~~characterized in that~~ wherein said functional layers [[(4a, 4b, 4c, 4d)]] at least partially absorb radiation [[(8)]] in a wavelength range that includes wavelengths greater than the wavelength λ_0.

14. (Currently Amended) The radiation detector as in claim 12 [[or 13]], ~~characterized in that~~ wherein said functional layers [[(4a, 4b, 4c, 4d)]] have different band gaps and/or thicknesses.

15. (Currently Amended) The radiation detector as in ~~one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein said filter layer structure [[(70)]] is disposed after said active region [[(5)]] in the direction of the incident radiation [[(8)]].

16. (Currently Amended) The radiation detector as in ~~one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein said filter layer structure (70) comprises a single filter layer (7) having a direct band gap and an indirect band gap.

17. (Currently Amended) The radiation detector as in claim 16, ~~characterized in that~~ wherein said direct band gap is larger than the band gap of a functional layer disposed after said filter layer [[(7)]] on the side nearer said active region [[(5)]].

18. (Currently Amended) The radiation detector as in ~~either of claims 16 or 17~~ claim 17, ~~characterized in that~~ wherein said filter layer [[(7)]] determines the short-wave side of said detector sensitivity by absorbing radiation via said indirect band gap in a wavelength range that includes wavelengths smaller than λ_0.

19. (Currently Amended) The radiation detector as in ~~one of claims 16 to 18~~ claim 16, ~~characterized in that~~ wherein said direct band gap determines a short-wave limit of said detector sensitivity.

20. (Currently Amended) The radiation detector as in ~~one of claims 16 to 19~~ claim 16, ~~characterized in that~~ wherein the thickness of said filter layer [[(7)]] is greater than 1 μm, particularly 10 μm or more.

21. (Currently Amended) The radiation detector as in ~~at least one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein said filter layer structure [[(70)]] comprises a plurality of filter layers [[(7a, 7b, 7c)]] of different band gaps and/or thickness.

22. (Currently Amended) The radiation detector as in claim 21, ~~characterized in that~~ wherein said filter layer structure [[(70)]] determines the short-wave side of said detector sensitivity [[(10)]] by absorbing radiation via a direct band gap of the respective filter layer [[(7a, 7b, 7c)]] in a wavelength range that includes wavelengths smaller than λ_0.

23. (Currently Amended) The radiation detector as in claim 21 [[or 22]], ~~characterized in that~~ wherein said filter layer structure [[(70)]] has a thickness of 1 μm or less.

24. (Currently Amended) The radiation detector as in ~~at least one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein said functional layers [[(4a, 4b, 4c, 4d)]] determine by their implementation the long-wave side [[(102)]] of said detector sensitivity [[(10)]] in accordance with said predefined spectral sensitivity distribution [[(9)]] for wavelengths greater than λ_0.

25. (Currently Amended) The radiation detector as in ~~at least one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the respective band gaps of functional layers [[(4a, 4b, 4c, 4d)]] disposed one after the other in said semiconductor body [[(1)]] at least partially increase in the direction of the incident radiation [[(8)]].

26. (Currently Amended) The radiation detector as in ~~at least one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein said functional layers [[(4a, 4b, 4c, 4d)]] or at least a portion of said functional layers are substantially undoped.

27. (Currently Amended) The radiation detector as in ~~at least one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein said active region [[(5)]] comprises at least one heterostructure.

28. (Currently Amended) The radiation detector as in ~~at least one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein said active region [[(5)]], particularly the functional layers, or said filter layer structure [[(70)]] contains at least one III/V semiconductor material, preferably $In_xGa_yAl_{1-x-y}P$, $In_xGa_yAl_{1-x-y}As$ or $In_xGa_yAl_{1-x-y}N$, where in each case $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$.

29. (Currently Amended) The radiation detector as in ~~at least one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein said semiconductor body [[(1)[[particularly the semiconductor body comprising said filter layer structure [[(70)]], is monolithically integrated.